

Crystal Data: Hexagonal. *Point Group:* 3m. As terminated prismatic crystals, to 0.3 mm.

Physical Properties: *Cleavage:* [Poor/indistinct on {0001}.] *Fracture:* Conchoidal.
Tenacity: Brittle. *Hardness* = 7.5 *D(meas.)* = n.d. *D(calc.)* = 3.14

Optical Properties: Transparent. *Color:* Green. *Streak:* Pale green. *Luster:* Vitreous.
Optical Class: Uniaxial (-). $\omega = 1.693(5)$ $\varepsilon = 1.673(5)$ *Pleochroism:* *O* = yellow-green;
E = pale olive green.

Cell Data: *Space Group:* R3m. $a = 16.0273(3)$ $c = 7.2883(3)$ $Z = 3$

X-ray Powder Pattern: Calculated pattern.

2.5958 (100), 2.9928 (67), 4.0041 (66), 4.2606 (52), 3.5221 (47), 2.0573 (43), 6.4467 (37)

Chemistry:	(1)		(1)
SiO ₂	35.34	MgO	9.65
TiO ₂	0.29	CaO	1.24
B ₂ O ₃	[10.23]	Na ₂ O	2.11
Al ₂ O ₃	20.36	K ₂ O	0.09
Cr ₂ O ₃	1.48	<u>H₂O</u>	<u>[2.86]</u>
V ₂ O ₃	15.97	Total	100.12
Fe ₂ O ₃	[0.34]		
FeO	[0.15]		

(1) Pereval marble quarry, Sludyanka, Lake Baikal, Russia; average of 10 electron microprobe analyses supplemented by FTIR spectrometry, B₂O₃ and Fe₂O₃:FeO calculated; corresponds to $X(\text{Na}_{0.70}\text{Ca}_{0.23}\square_{0.05}\text{K}_{0.02})_{\Sigma=1.00}^Y(\text{V}_{1.39}\text{Mg}_{1.16}\text{Al}_{0.35}\text{Fe}_{0.04}\text{Ti}_{0.04}\text{Fe}_{0.02})_{\Sigma=3.00}^Z(\text{Al}_{3.74}\text{Mg}_{1.28}\text{V}_{0.78}\text{Cr}_{0.20})_{\Sigma=6.00}^T(\text{Si}_{6.00}\text{O}_{18})^B(\text{BO}_3)_3^V(\text{OH})_3^W[\text{O}_{0.74}(\text{OH})_{0.26}]_{\Sigma=1.00}$.

Polymorphism & Series: Complete solid-solution exists between the species oxy-dravite, vanadio-oxy-dravite, and oxy-vanadium-dravite.

Mineral Group: Tourmaline supergroup, alkali group, oxy-subgroup 3.

Occurrence: A primary mineral in metaquartzite (granulite facies) in marble.

Association: Quartz, Cr-V-bearing tremolite and mica, diopside-kosmochlor-natalyite, Cr-bearing goldmanite, escolaita-karelianite, dravite-oxy-vanadium-dravite, V-bearing titanite and rutile, ilmenite, oxyvanite-berdesinskiite, shreyerite, plagioclase, scapolite, zircon, pyrite.

Distribution: From the Pereval marble quarry, Sludyanka, Lake Baikal, Russia.

Name: As an oxy-dravite with dominant vanadium in the Y site and V³⁺ contents between 5 and 1.5 atoms per formula unit.

Type Material: Museum of Mineralogy, Earth Sciences Department, Sapienza University, Rome, Italy (33068).

References: (1) Bosi, F., H. Skogby, L. Reznitskii, and U. Hålenius (2014) Vanadio-oxy-dravite, NaV₃(Al₄Mg₂)(Si₆O₁₈)(BO₃)₃(OH)₃O, a new mineral species of the tourmaline supergroup. *Amer. Mineral.*, 99, 218-224.